

## Amendments of the Claims

The following listing of claims will replace all prior versions, and listings, of claims in the above-identified patent application:

### Listing of Claims

1. (currently amended) A method for analyzing data that represents price in a financial system that varies over time, said method comprising:

beginning at a first initial moment, acquiring  
5 said price data during an initial first duration and determining an initial first range of said data between a minimum value during said initial first duration and a maximum value during said initial first duration;

comparing said first range of said price data  
10 during said initial first duration to a range of said price data expected, based on Brownian motion, during said initial first duration;

when said first range of said price data during said initial first duration equals said range of said price  
15 data expected, based on Brownian motion, during said initial first duration, concluding that said system is varying erratically;

when said first range of said price data during said initial first duration exceeds said range of said price  
20 data expected, based on Brownian motion, during said initial first duration, concluding that said system is varying in a trend; and

when said first range of said price data during said initial first duration is less than said range of said  
25 price data expected, based on Brownian motion, during said initial first duration, concluding that said system is congesting.

2. (currently amended) The method of claim 1 wherein said comparing comprises comparing said initial first range of said price data to a generated Brownian motion standard.

3. (currently amended) The method of claim 2 further comprising, after said acquiring and before said comparing, applying bootstrapping techniques to said price data.

4. (currently amended) The method of claim 1 further comprising:

beginning at said first initial moment,  
acquiring said data during an initial second duration of which  
5 said initial first duration is a multiple and determining an  
initial second range of said price data between a minimum  
value during said initial second duration and a maximum value  
during said initial second duration; wherein said comparing  
comprises:

10 comparing an actual relationship of said  
initial first range to said initial second range to an  
expected relationship of said initial first range to said  
initial second range, and determining from said comparison how  
said system is varying.

5. (previously presented) The method of claim 4 wherein said comparing and determining comprises:

forming a ratio of said initial first range to  
said initial second range; and:

5 when said ratio equals a square root of said  
multiple concluding that said system is varying erratically;

when said ratio exceeds said square root,  
concluding that said system is varying in a trend; and

10 when said ratio is less than said square root,  
concluding that said system is congesting.

6. (currently amended) The method of claim 4 further comprising:

beginning at a subsequent initial moment,  
acquiring said price data during a subsequent first duration  
5 and determining a subsequent first range of said price data  
between a minimum value during said subsequent first duration  
and a maximum value during said subsequent first duration;

beginning at said subsequent initial moment,  
acquiring said price data during a subsequent second duration  
10 of which said subsequent first duration is said multiple and  
determining a subsequent second range of said price data  
between a minimum value during said subsequent second duration  
and a maximum value during said subsequent second duration;  
and

15 comparing an actual relationship of said  
subsequent first range to said subsequent second range to an  
expected relationship of said subsequent first range to said  
subsequent second range, and determining from said comparison  
how said system is varying.

7. (original) The method of claim 6 further comprising repeating said acquiring, said determining and said comparing at multiple additional subsequent initial moments.

8. (previously presented) The method of claim 7 wherein said comparing and determining comprises, for each of said initial moments:

forming a ratio of said initial first range to  
5 said initial second range and:

when said ratio equals a square root of said multiple, concluding that said system is varying erratically;

when said ratio exceeds said square root,  
concluding that said system is varying in a trend; and

10                   when said ratio is less than said square root,  
concluding that said system is congesting.

9. (previously presented)           The method of claim 8  
further comprising comparing said ratio for two consecutive  
ones of said initial moments and:

                  when each of said ratios equals a square root  
5 of said multiple, concluding that said system is varying  
erratically;

                  when each said ratio exceeds said square root  
and a subsequent ratio exceeds a prior ratio, concluding that  
said system is varying in a trend and said trend is  
10 accelerating;

                  when each said ratio exceeds said square root  
and a prior ratio exceeds a subsequent ratio, concluding that  
said system is varying in a trend and said trend is  
decelerating;

15                   when each said ratio is less than said square  
root and a prior ratio exceeds a subsequent ratio, concluding  
that said system is congesting and said congestion is  
accelerating;

                  when each said ratio is less than said square  
20 root and a subsequent ratio exceeds a prior ratio, concluding  
that said system is congesting and said congestion is  
decelerating;

                  when a prior ratio is less than said square  
root and a subsequent ratio exceeds said square root,  
25 concluding that said system has moved from congestion into an  
accelerating trend; and

                  when a prior ratio exceeds said square root and  
a subsequent ratio is less than said square root, concluding  
that said system has moved from a decelerating trend into  
30 congestion.

10. (previously presented) The method of claim 9 further comprising:

comparing said ratio for three consecutive ones of said initial moments separated by equal time intervals; and

5 deriving from said comparison a prediction of when said system will move from a current condition of congestion or trend to another condition of congestion or trend.

11. (currently amended) The method of claim 10 further comprising displaying said prediction in the form of a closed curve with price data points from said three consecutive ones of said initial moments identified on said  
5 closed curve.

12. (currently amended) The method of claim 1 further comprising displaying said initial first range of said price data and said expected range of said price data.

13. (original) The method of claim 12 wherein said displaying comprises displaying a line graph.

14. (original) The method of claim 12 wherein said displaying comprises displaying an orbital plot.

15-16. (cancelled)

17. (currently amended) The method of claim 1 further comprising:

beginning at a subsequent initial moment,  
acquiring said price data during a subsequent first duration  
5 and determining a subsequent first range of said price data between a minimum value during said subsequent first duration and a maximum value during said subsequent first duration; and  
comparing said subsequent first range of said price data during said subsequent first duration to an

10 expected range of said price data during said subsequent first duration.

18. (currently amended) The method of claim 17 further comprising:

beginning at said subsequent initial moment,  
acquiring said price data during a subsequent second duration  
5 of which said subsequent first duration is a multiple and  
determining a subsequent second range of said price data  
between a minimum value during said subsequent second duration  
and a maximum value during said subsequent second duration;  
wherein said comparing comprises:

10 comparing an actual relationship of said  
subsequent first range to said subsequent second range to an  
expected relationship of said subsequent first range to said  
subsequent second range, and determining from said comparison  
how said system is varying.

19. (original) The method of claim 18 further comprising repeating said acquiring, said determining and said comparing at multiple additional subsequent initial moments.

20. (original) The method of claim 17 further comprising repeating said acquiring, said determining and said comparing, beginning at multiple additional subsequent initial moments.

21. (original) The method of claim 20 further comprising repeating said acquiring, said determining and said comparing at multiple additional sets of multiple initial moments, said duration differing for each said set.

22. (currently amended) Apparatus for analyzing data representing price in a financial system that varies over time, said apparatus comprising:

means for, beginning at a first initial moment,  
5 acquiring said price data during an initial first duration and  
determining an initial first range of said price data between  
a minimum value during said initial first duration and a  
maximum value during said initial first duration;

means for comparing said first range of said  
10 price data during said initial first duration to a range of  
said price data expected, based on Brownian motion, during  
said initial first duration; and

means for concluding:

when said first range of said price data during  
15 said initial first duration equals said range of said price  
data expected, based on Brownian motion, during said initial  
first duration, that said system is varying erratically,

when said first range of said price data during  
said initial first duration exceeds said range of said price  
20 data expected, based on Brownian motion, during said initial  
first duration, that said system is varying in a trend, and

when said first range of said price data during  
said initial first duration is less than said range of said  
price data expected, based on Brownian motion, during said  
25 initial first duration, that said system is congesting.

23. (currently amended) The apparatus of claim 22  
further comprising a Brownian motion standard generator;  
wherein:

said comparing means compares said initial  
5 first range of said price data to a Brownian motion standard  
generated by said Brownian motion standard generator.

24. (currently amended) The apparatus of claim 23  
further comprising means for applying bootstrapping techniques  
to said acquired price data.

25. (currently amended) The apparatus of claim 22 further comprising:

means for, beginning at said first initial moment, acquiring said price data during an initial second duration of which said initial first duration is a multiple and determining an initial second range of said price data between a minimum value during said initial second duration and a maximum value during said initial second duration; wherein:

10 said comparing means compares an actual relationship of said initial first range to said initial second range to an expected relationship of said initial first range to said initial second range, and determines from said comparison how said system is varying.

26. (previously presented) The apparatus of claim 25 wherein said means for comparing and determining forms a ratio of said initial first range to said initial second range and:

5 when said ratio equals a square root of said multiple, concludes that said system is varying erratically; when said ratio exceeds said square root, concludes that said system is varying in a trend; and when said ratio is less than said square root,  
10 concludes that said system is congesting.

27. (currently amended) The apparatus of claim 25 further comprising:

means for, beginning at a subsequent initial moment, acquiring said price data during a subsequent first duration and determining a subsequent first range of said price data between a minimum value during said subsequent first duration and a maximum value during said subsequent first duration;



means for, beginning at said subsequent initial  
10 moment, acquiring said price data during a subsequent second  
duration of which said subsequent first duration is said  
multiple and determining a subsequent second range of said  
price data between a minimum value during said subsequent  
second duration and a maximum value during said subsequent  
15 second duration; and

means for comparing an actual relationship of  
said subsequent first range to said subsequent second range to  
an expected relationship of said subsequent first range to  
said subsequent second range, and determining from said  
20 comparison how said system is varying.

28. (currently amended) The apparatus of claim 22  
further comprising means for displaying said initial first  
range of said price data and said expected range of said price  
data.

29. (original) The apparatus of claim 28 wherein  
said displaying means displays a line graph.

30. (original) The apparatus of claim 28 wherein  
said displaying means displays a orbital plot.

31-32. (cancelled)

33. (currently amended) The apparatus of claim 22  
further comprising:

means for, beginning at a subsequent initial  
moment, acquiring said price data during a subsequent first  
5 duration and determining a subsequent first range of said  
price data between a minimum value during said subsequent  
first duration and a maximum value during said subsequent  
first duration; and

means for comparing said subsequent first range  
10 of said price data during said subsequent first duration to an

expected range of said price data during said subsequent first duration.

34. (currently amended) The apparatus of claim 33 further comprising:

means for, beginning at said subsequent initial moment, acquiring said price data during a subsequent second duration of which said subsequent first duration is a multiple and determining a subsequent second range of said price data between a minimum value during said subsequent second duration and a maximum value during said subsequent second duration; wherein said comparing means compares an actual relationship of said subsequent first range to said subsequent second range to an expected relationship of said subsequent first range to said subsequent second range, and determines from said comparison how said system is varying.

35. (currently amended) Apparatus for analyzing data representing price in a financial system that varies over time, said apparatus comprising:

a data feed for, beginning at a first initial moment, acquiring said price data during an initial first duration; and

a processor for determining an initial first range of said price data between a minimum value during said initial first duration and a maximum value during said initial first duration; wherein:

said processor compares said first range of said price data during said initial first duration to a range of said price data expected, based on Brownian motion, during said initial first duration; and

said processor concludes:

when said first range of said price data during said initial first duration equals said range of said price data expected, based on Brownian motion, during said initial

first duration, concluding that said system is varying  
20 erratically,

when said first range of said price data during  
said initial first duration exceeds said range of said price  
data expected, based on Brownian motion, during said initial  
first duration, concluding that said system is varying in a  
25 trend, and

when said first range of said price data during  
said initial first duration is less than said range of said  
price data expected, based on Brownian motion, during said  
initial first duration, concluding that said system is  
30 congesting.

36. (currently amended) The apparatus of claim 35  
further comprising a Brownian motion standard generator;  
wherein:

said processor compares said initial first  
5 range of said price data to a Brownian motion standard  
generated by said Brownian motion standard generator.

37. (currently amended) The apparatus of claim 36  
wherein said processor applies bootstrapping techniques to  
said acquired price data.

38. (currently amended) The apparatus of claim 35  
wherein:

said data feed, beginning at said first initial  
moment, acquires said price data during an initial second  
5 duration of which said initial first duration is a multiple;

said processor determines an initial second  
range of said price data between a minimum value during said  
initial second duration and a maximum value during said  
initial second duration; and

10 said processor compares an actual relationship  
of said initial first range to said initial second range to an

expected relationship of said initial first range to said initial second range, and determines from said comparison how said system is varying.

39. (previously presented) The apparatus of claim 38 wherein said processor forms a ratio of said initial first range to said initial second range and:

when said ratio equals a square root of said multiple, concludes that said system is varying erratically;  
when said ratio exceeds said square root, concludes that said system is varying in a trend; and  
when said ratio is less than said square root, concludes that said system is congesting.

40. (currently amended) The apparatus of claim 38 wherein:

said data feed, beginning at a subsequent initial moment, acquires said price data during a subsequent first duration;

said processor determines a subsequent first range of said price data between a minimum value during said subsequent first duration and a maximum value during said subsequent first duration;

said data feed, beginning at said subsequent initial moment, acquiring said price data during a subsequent second duration of which said subsequent first duration is said multiple;

said processor determines a subsequent second range of said price data between a minimum value during said subsequent second duration and a maximum value during said subsequent second duration; and

said processor compares an actual relationship of said subsequent first range to said subsequent second range to an expected relationship of said subsequent first range to

said subsequent second range, and determines from said comparison how said system is varying.

41. (currently amended) The apparatus of claim 35 further comprising a display for displaying said initial first range of said price data and said expected range of said price data.

42. (original) The apparatus of claim 41 wherein said display displays a line graph.

43. (original) The apparatus of claim 41 wherein said display displays a orbital plot.

44-45. (cancelled)

46. (currently amended) The apparatus of claim 35 wherein:

5       said data feed, beginning at a subsequent initial moment, acquires said price data during a subsequent first duration;

      said processor determines a subsequent first range of said price data between a minimum value during said subsequent first duration and a maximum value during said subsequent first duration; and

10       said processor compares said subsequent first range of said price data during said subsequent first duration to an expected range of said price data during said subsequent first duration.

47. (currently amended) The apparatus of claim 46 wherein:

5       said data feed, beginning at said subsequent initial moment, acquires said price data during a subsequent second duration of which said subsequent first duration is a multiple;

said processor determines a subsequent second range of said price data between a minimum value during said subsequent second duration and a maximum value during said subsequent second duration;

said processor compares an actual relationship of said subsequent first range to said subsequent second range to an expected relationship of said subsequent first range to said subsequent second range, and determines from said comparison how said system is varying.

48. (currently amended) A method for analyzing data representing price in a financial system that varies over time, said method comprising:

beginning at an initial moment, acquiring said price data during a first duration and determining a first range of said price data between a minimum value during said first duration and a maximum value during said first duration; determining a second range, expected based on Brownian motion, of said price data during a second duration beginning at said initial moment; and

monitoring an instantaneous value of said price data during said second duration and determining that said system is varying in a trend when said instantaneous value is outside said expected second range.

49. (original) The method of claim 48 wherein:

said second duration is a multiple of said first duration; and

said expected second range is a product of said first range and a square root of said multiple.

50-51. (cancelled)

52. (currently amended) Apparatus for analyzing data representing price in a financial system that varies over time, said apparatus comprising:

means for, beginning at an initial moment,  
5 acquiring said price data during a first duration and  
determining a first range of said data between a minimum value  
during said first duration and a maximum value during said  
first duration;

means for determining a second range, as  
10 expected based on Brownian motion, of said price data during a  
second duration beginning at said initial moment; and

means for monitoring an instantaneous value of  
said price data during said second duration and determining  
that said system is varying in a trend when said instantaneous  
15 value is outside said expected second range.

53. (original) The apparatus of claim 52 wherein:  
said second duration is a multiple of said  
first duration; and

said expected second range is a product of said  
5 first range and a square root of said multiple.

54-55. (cancelled)

56. (currently amended) Apparatus for analyzing  
data representing price in a financial system that varies over  
time, said apparatus comprising:

a data feed for, beginning at an initial  
5 moment, acquiring said price data during a first duration and  
monitoring an instantaneous value of said price data during a  
second duration beginning at said initial moment; and

a processor for:

determining an initial first range of said  
10 price data between a minimum value during said initial first  
duration and a maximum value during said initial first  
duration,

determining a second range, expected based on  
Brownian motion, of said price data during a second duration  
15 beginning at said initial moment, and

determining that said system is varying in a  
trend when said instantaneous value is outside said expected  
second range.

57. (original) The apparatus of claim 56 wherein:  
said second duration is a multiple of said  
first duration; and  
said expected second range is a product of said  
5 first range and a square root of said multiple.

58-59. (cancelled)

60. (withdrawn) A method for offering to  
subscribers analysis of data that vary over time, said method  
comprising:

beginning at each of a plurality of initial  
5 moments, acquiring said data during a plurality of respective  
first durations;

dividing said data into respective portions,  
each of said respective portions including data for one or  
more of said plurality of respective first durations;

10 transmitting said data to respective computers  
operated by at least some of said subscribers at the option of  
each individual subscriber;

determining at each said respective computer,  
for each respective first duration in said respective data  
15 portion a respective first range of said data between a  
minimum value during said respective first duration and a  
maximum value during said respective first duration;

determining at each said respective computer,  
for each respective first duration in said respective data



20 portion a respective expected range of said during said  
respective first duration;  
collecting said respective determinations of  
said respective computers;  
comparing each respective range of said data  
25 during each respective first duration to each respective  
expected range of said data during said respective first  
duration; and  
transmitting said comparison to said  
subscribers.

61. (withdrawn) The method of claim 60 further  
comprising charging a respective subscription fee to each of  
said subscribers, said respective subscription fee being lower  
for a subscriber among said at least some of said subscribers  
5 than for a subscriber outside said at least some of said  
subscribers.

62. (withdrawn) The apparatus of claim 56  
wherein said system is a biological system and said data are  
biological data.

63. (withdrawn) The apparatus of claim 56  
wherein said system is a meteorological system and said data  
are meteorological data.

64. (withdrawn) The apparatus of claim 52  
wherein said system is a biological system and said data are  
biological data.

65. (withdrawn) The apparatus of claim 52  
wherein said system is a meteorological system and said data  
are meteorological data.

66. (withdrawn) The method of claim 48 wherein said system is a biological system and said data are biological data.

67. (withdrawn) The method of claim 48 wherein said system is a meteorological system and said data are meteorological data.

68. (withdrawn) The apparatus of claim 35 wherein said system is a biological system and said data are biological data.

69. (withdrawn) The apparatus of claim 35 wherein said system is a meteorological system and said data are meteorological data.

70. (withdrawn) The apparatus of claim 22 wherein said system is a biological system and said data are biological data.

71. (withdrawn) The apparatus of claim 22 wherein said system is a meteorological system and said data are meteorological data.

72. (withdrawn) The method of claim 1 wherein said system is a biological system and said data are biological data.

73. (withdrawn) The method of claim 1 wherein said system is a meteorological system and said data are meteorological data.